



Energising Development (EnDev) Indonesia

Micro-hydro power (MHP) in Indonesia

Implementation considerations



Project Overview

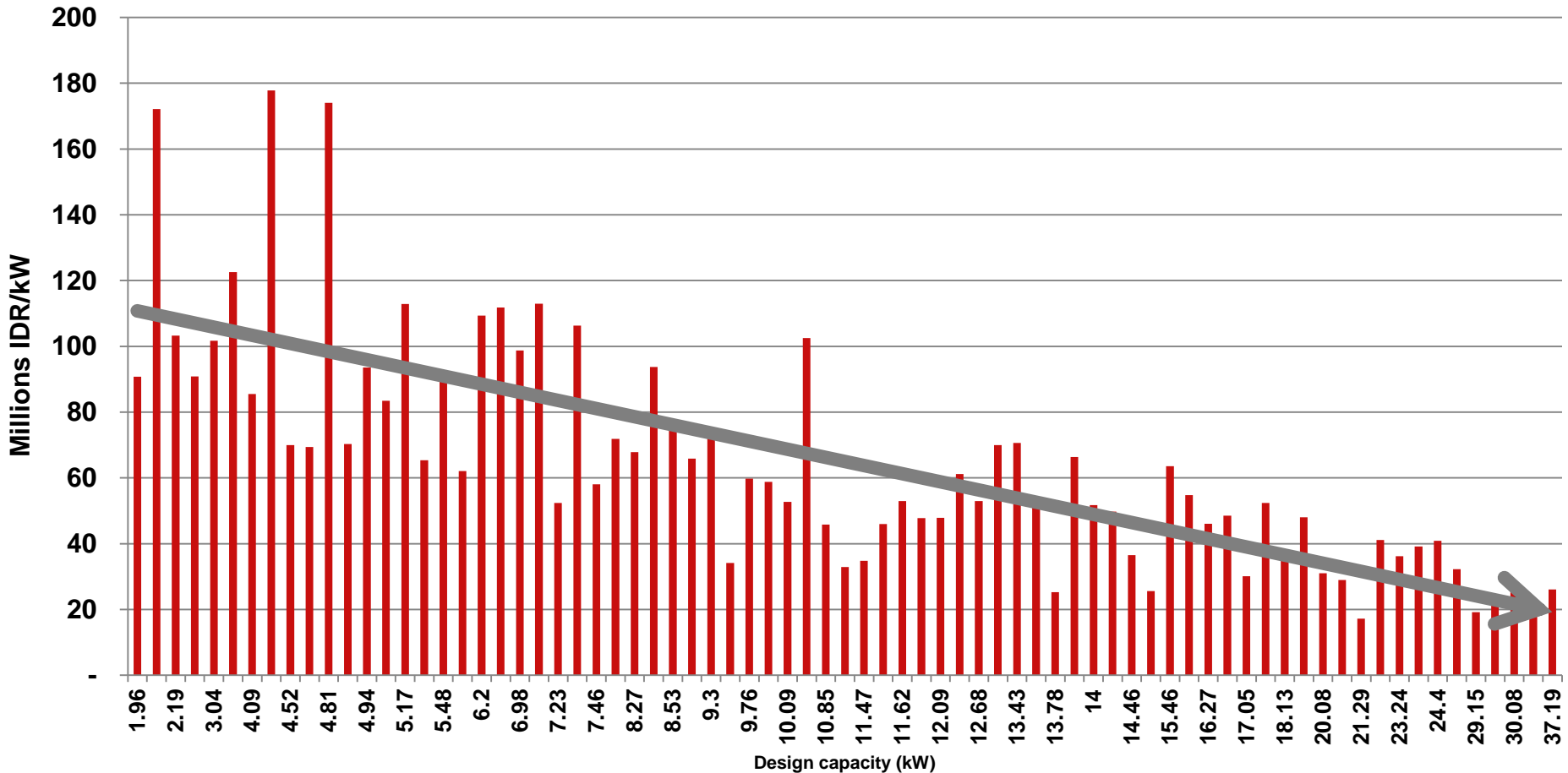
- To provide technical support to the implementation of about **130 MHPs**
- To provide technical support to the implementation of about **117 solar PV mini-grids** (15kW)
- To undertake Village Management **trainings** on system operation, administration and maintenance
- To **monitor and evaluate** performance of rural energy infrastructure
- **Time frame:** 2009 - 2014





MHP: Cost per kW

Project cost per Design Capacity - December 2012

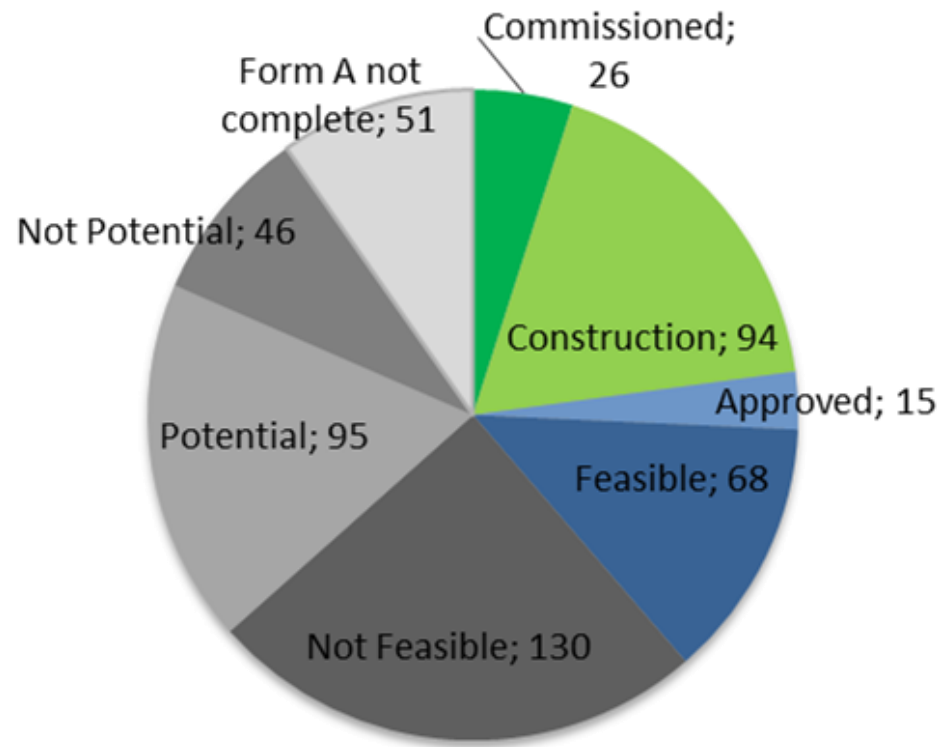


- MHPs with capacity of under 5 kW are generally not cost effective



MHP: Pre-implementation planning

MHP development status under GIZ-EnDev - March 2012

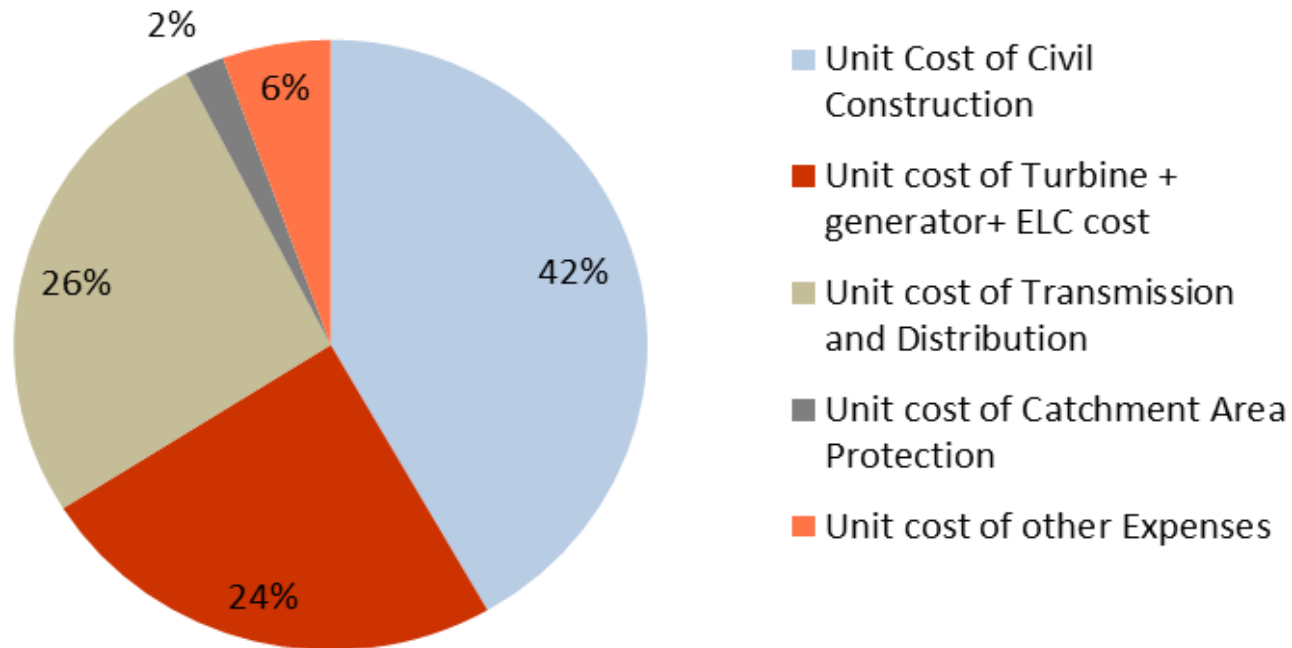


- Of over 500 MHP proposals assessed, only about 130 were ultimately constructed
- Time and cost effort to assess feasibility must be duly considered
- Detailed feasibility study is vital prior to construction



MHP: Ancillary costs

MHP Cost breakdown under GIZ-EnDev- March 2012



- Ancillary costs are substantial and highly variable
- These costs must be adequately considered during budget development



- Metering or state of charge technology at generation and/or consumption side, to understand energy potential, constraints and optimisation
 - Monitoring, evaluation and feed-back mechanisms for a) MHP operators and b) decision-makers on provincial and national level
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- Electricity transmission and distribution technology must be fully grid compliant in order to accommodate future grid connection and grid in-feeding





<http://endev-indonesia.or.id>